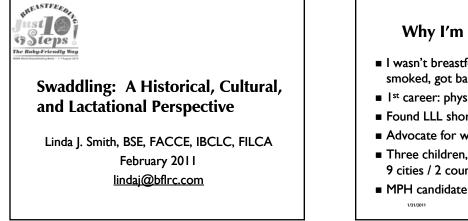
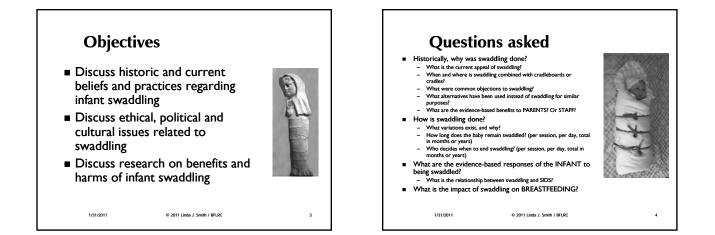
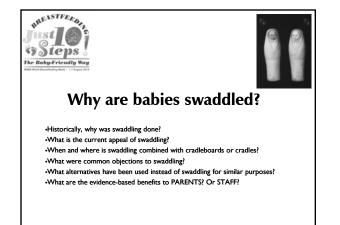
Swaddling: A Historical, Cultural, and Lactational Perspective

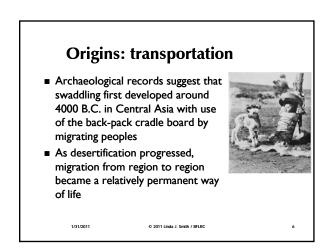


Why I'm doing this talk

- I wasn't breastfed –I was early & breech; mom smoked, got bad advice, had good instincts
- Ist career: physical education & sports
- Found LLL shortly before 1st child's birth
- Advocate for women and babies healing
- Three children, 4 grandchildren, 13 houses in 9 cities / 2 countries
- MPH candidate in the home stretch now 1/31/2011 0 2011 Linds J. Smith / BERC







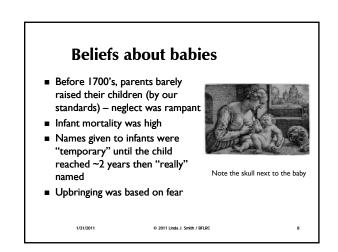
Origins: warmth & limb growth

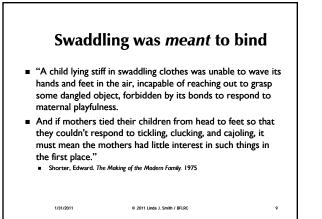
- "Swaddling clothes described in the Bible consisted of a cloth tied together by bandage-like strips.
- After an infant was born, the umbilical cord was cut and tied, and then the baby was washed, rubbed with salt and oil, and wrapped with strips of cloth.

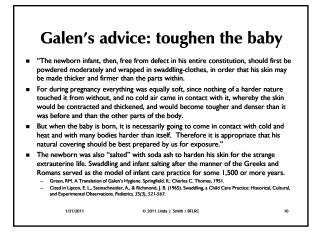


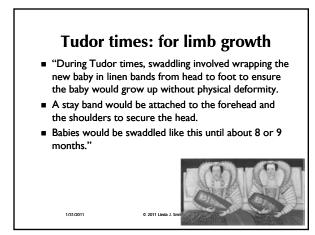
 These strips kept the newborn child warm and also ensured that the child's limbs would grow straight."

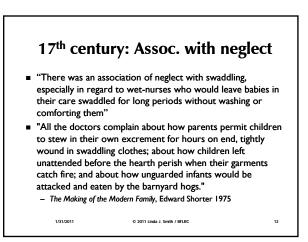
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- Swaddling diminished in England & France
 Replaced by alcohol and opium to sedate infants
- Persisted in Eastern Europe, Middle East, Lapland, Japan, North American Indians
- More common in cold and/or dry climates
- Rare in warm, humid climates (finfections)
 Abdulrazza, Y. M. Kendi, A. A. & Nagelkerke, N. (2008). Child care practice in the United Arab Emirates: the ESACCIPS study. Acta Paedar, 17(5), 570-573.

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Contemporary reasons to swaddle

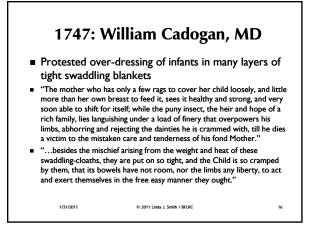
Russia: prevent self-injury

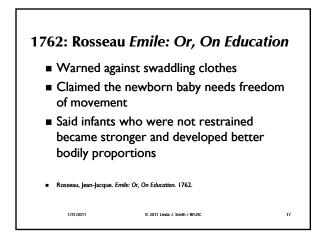
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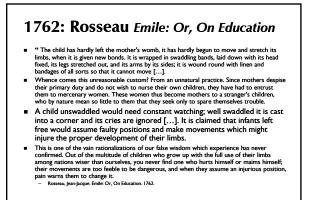
- Poland: baby might fall apart, or be weak; prevent sucking on own toes or fingers
- Rumania: prevent masturbation; tied hands to crib even when too old to swaddle
- Ukraine, Poland: warmth and comfort
- Italy, Albania, Greece, Slovakia: prevent selfinjury
 Lipon, E. L. Sainchward, A. & Richmon, J. R. (1985). Swadding, a Child Care Practice: Historical, Cultural, and Experimental Observation Materica, 33(6), 213-627.

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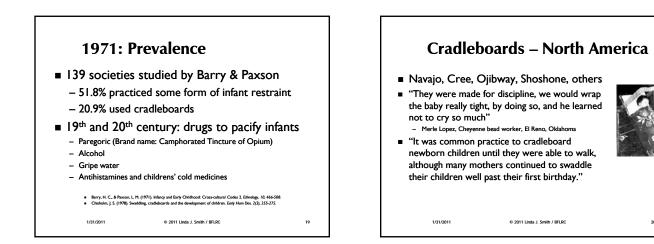
1693: John Locke objects
"John Locke, in his 1693 publication Some *houghts Concerning Education*, became a lobbyist for not binding babies at all.
This thought was very controversial during the time, but slowly gained ground, first in England and later elsewhere in Europe."



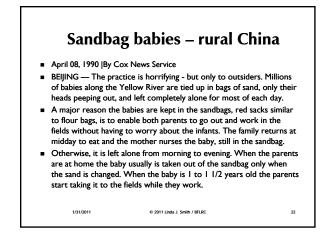


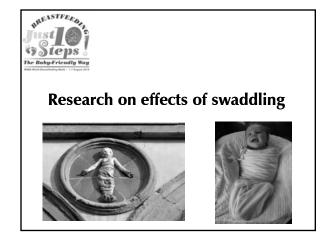


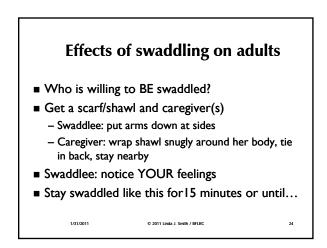
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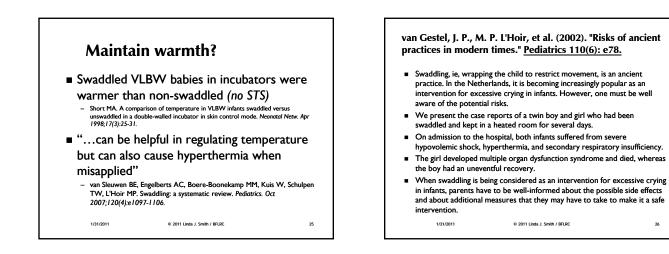


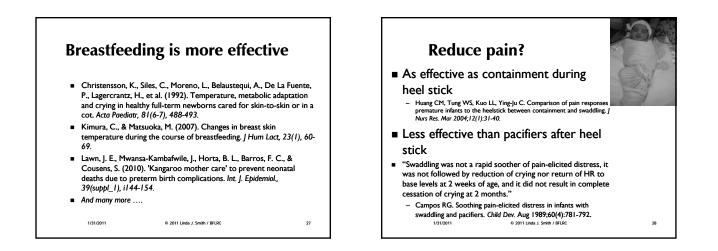


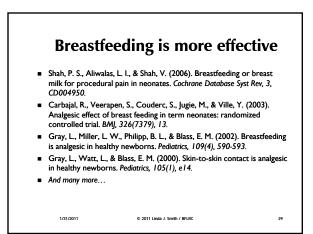


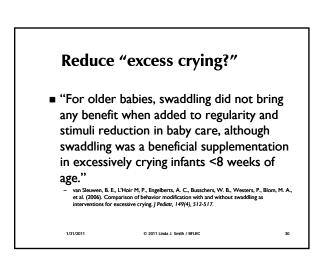






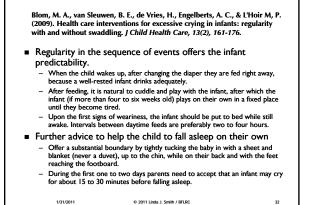




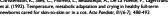


What exactly IS "excess crying?"

- "Often, excessively crying infants are not used to falling asleep on their own. These infants need an opportunity to learn this and may need to cry themselves to sleep for 15 to 30 minutes.
- Some infants persist in crying for more than 30 minutes, and for these babies it is suggested that the parents offer some consolation without taking the child out of the bedroom
- If an infant remains inconsolable, parents should begin again the cycle described previously (i.e. take the infant out of bed, feed them, and so forth).
- When this approach is used, the child soon recognizes that being picked up out of bed is followed by being fed, and being put into bed is followed by going to sleep.
- Within this regular pattern, the infant is fed shortly after waking up, since a wellrested infant drinks adequately and a well-fed infant is able to play on their own contentedly until they become tired.
 - Blom, M. A., van Sleuwen, B. E., de Vries, H., Engelberts, A. C., & L'Hoir M, P. (2009). Health care interventions for excessive crying in infants: regularity with and without swaddling. J Child Health Care, 13(2), 161-176. 1312011 0 2011 Linda J. Smith / BFLRC 31 © 2011 Linda J. Smith / BFLRC



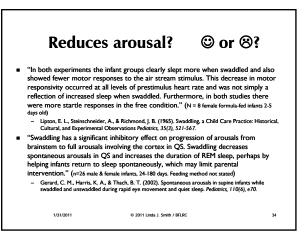
STS and BF are more effective "Babies kept in cots cried significantly more than those kept skin-to-skin with the mother. Keeping the baby skin-to-skin with the mother preserves energy and accelerates metabolic adaptation and may increase the well-being of the newborn." Christensson, K., Siles, C., Moreno, L., Belaustequi, A., De La Fuente, P., La z al. (1992). Temperature, metabolic adaptation and crying in healthy full-to newborns cared for skin-to-skin or in a cot. *Acto Poediatr, 81(6-7), 488-493*. iente, P., Lagerci ealthy 6-11 -



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Reduced arousal = \triangle SIDS risk

- "Breast fed infants are more easily aroused from AS at 2-3 months of age than formula fed infants. This age coincides with the peak incidence of SIDS." Horne, R. S., Parslow, P. M., Ferens, D., Watts, A. M., & Adamson, T. M. (2004). Com evoked arousability in breast and formula fed infants. Arch Dis Child, 89(1), 22-25.
- "Infants in the naive to swaddling group exhibited decreased spontaneous cortical arousal, similar to responses observed in future victims of sudden infant death syndrome." (27 breastfed male & female infants @ 3-4 weeks & 3 mos.)
 - Richardson, H. L., Walker, A. M., & R. S. C. H. (2010). Influence of Swaddling Experience on Spontaneous Arousal Patterns and Autonomic Control in Sleeping Infants. J Pediatr.

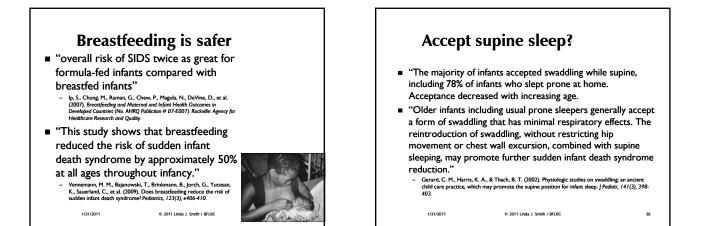
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Independent risk factor for SIDS

- Infant swaddled for last sleep: 24% of cases, 6% of controls; odds ratio 31.06 (range 4.21 to 228.94); P=. 0.001
 - Blair, P. S., Sidebotham, P., Evason-Coombe, C., Edmonds, M., Heckstall-Smith, E. M., & Fleming, P. (2009). Hazardous cosleeping environments and risk factors amenable to change: case-control study of SIDS in south west England. BMJ, 339, b3666.

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Reduce Prone Sleep = (Ψ SIDS) "...swaddling may be protective for back-sleeping infants by preventing

- them from moving into dangerous situations (such as rolling to prone) but harmful for those who sleep on their stomach, restricting a prone infant from moving to a position of safety.
- Spontaneous turning to the prone position from a supine or side position during sleep is associated with an increased risk for SIDS.
- Immobilization of infant arms and legs by swaddling should reduce the chances that an infant will cover his head and face with bedding, a wellestablished risk factor for SIDS in which overheating and asphyxia maybe causal factors.
 - Gerard, C. M., Harris, K. A., & Thach, B. T. (2002). Spontaneous arousals in supine ed and unswaddled during rapid eye movement and quiet sleep. infants while swa Pediatrics, 110(6), e70.

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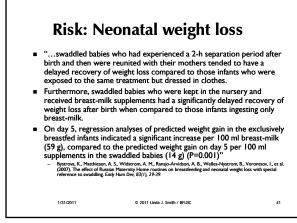
Breastfeeding works better

"without instruction, the routinely bedsharing breast feeding mothers almost always placed their infants in the safe supine infant sleep position, probably because it is difficult, if not impossible, to breastfeed a prone sleeping infant" McKenna, J. J., & McDade, T. (2005). Why



babies should never sleep alone: a review of the co-sleeping controversy in relation to

SIDS, bedsharing and breast feeding. Paediater Respir Rev, 6(2), 134-1521 Linda J. Smith / BFLRC



Risk: Hip dysplasia Although we appreciate that swaddling may sometimes be an effective technique to decrease crying and promote sleep in newborns, there is

- concern that it may lead to an increase in hip dysplasia. ...swaddling has been found to be a risk factor for DDH. "Prospective studies have shown that 17% of newborns have some
- degree of "immaturity" or dysplasia of their hips according to ultrasound. Although this resolves untreated in most hips by 2 to 3 months of age, the hips are very susceptible to improper positioning that could lead to long-term dysplasia and early arthritis. This overlapping window of time in which infants are swaddled and their hips are susceptible to positioning is a potential concern."
 - Manan, S. T., & Kasser, J. R. (2008). Does Swaddling Influence Developmental Dysplasia of the Hip? *Pediatrics*, 12/(1), 177-178. Mahan, S. T., & Kasser, J. R. (2008). Safe Swaddling and Healthy Hips: Don't Toss the Baby out With the Bathwater: In Reply. *Pediatrics*, 121(5), 1077-o.

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Risk: Chest/respiratory restriction

- "The incidence of pneumonia and upper respiratory infections (URI) was assessed by retrospective chart review in hospitalized Turkish infants. They found that infants who were completely swaddled for 3 months had a 4-fold increased incidence of pneumonia and URI. Tight binding could restrict chest wall excursion, resulting in more frequent or complicated pneumonia.
- We do not have comparison data on unswaddled infants.
 Long-term studies, including overnight sleep studies of swaddled infants and respiratory effects, would be beneficial, since grunting and
- increased respirations did appear at higher pressures."
 Gerard, C. M., Harris, K. A. & Thach, B. T. (2002). Physiologic studies on swaddling: an ancient child care practice, which may promote the supine position for infant sleep. J Pediar, 141 (3), 398-403.

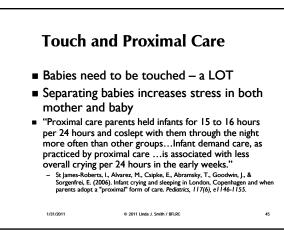
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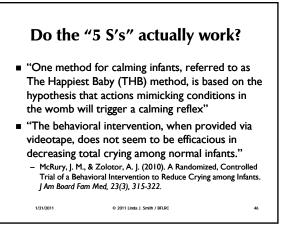
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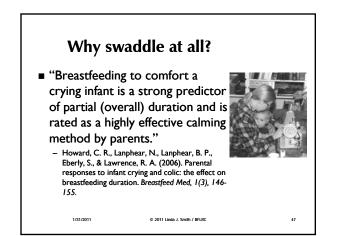


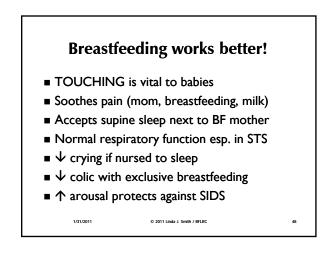
"Mothers and babies form an inseparable biological and social unit; the health and nutrition of one group cannot be divorced from the health and nutrition of the other."

WHO, & UNICEF (2003). Global strategy for infant and young child feeding.









Routine vs. last-resort strategy?

 "Advice for routine care of healthy babies must have as strong an evidence base as for babies who are ill, since healthy babies are far more common and the potential for unsuspected harm is relatively great – a lesson bitterly learned for infant sleeping position."

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- Peter Fleming

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Summary
Swaddling was used for transportation, bone development, reduced arousal, suppression of crying, warmth, restriction of movement
Swaddling has documented risks
Swaddling is an independent risk factor for SIDS
Overheating, reduced arousal
Swaddling deprives baby of skin / human contact

